

Let me add notes on the fifty-five: *Litorina*, *Nassa*, *Ilyanassa*, *Mytilus*, *Mya*, *Tottenia*, and a few others are general in distribution. Many others are limited, as follows: *Ostrea*, *Venus*, *Urosalpinx*, *Bittium*, *Sycotypus*, etc., common south of Cape Cod, but rare or wanting to the north. Again, *Buccinum*, *Lunatia*, *Cyprina*, and others should be sought in Maine. Many shells are found abundantly in limited portions of the coast. *Acmaea testudinalis*, common at Eastport, is scarce even in other parts of Maine. *Chiton albus* and *marmoratus*, with *Margarita groenlandica*, must be gathered at extreme tides in the Bay of Fundy. To be sure they occur elsewhere, but they are small and not abundant. The harvest season for *Lunatia* and *Cyprina* is after certain storms at Old Orchard. Sometimes these occur once or twice in a winter, or a year or more may pass without the harvest, but when they roll in they are very abundant. Dredging has an element of luck. One haul in the Penobscot Bay gave *Nucula proxima* enough for some years of exchanging. *Pecten magellanicus* is abundant in small areas, but it is easy to miss the spot. Another fact is the best region. *Buccinum* is common at Eastport, but small. The finest specimens are from Casco Bay. Yet other things, like Limpets and Chitons are at their best in Fundy waters.

The New England shells are very much in demand, but the lack of stock compels one to send frequent regrets. There is an amusing side to the work. One well-disposed friend asked for a dozen *Pecten islandicus*; I never saw a dozen. Prof. Verrill tells me that the government dredgings only yielded three or four in a summer.

It must be understood by the readers of this article that I speak of my own experience. Some forms that have not been found abundantly by me may be found in quantities at times, yet I think one may form an estimate of the difficulties we meet in New England.

NOTES ON THE GIANT LIMAS.

BY WILLIAM HEALEY DALL.

The reception of a specimen of *Lima goliath* Sowerby (1883) the other day led to comparisons of and annotations on the great deep-water species. The dean of this assembly is the well-known *Lima*

excavata Fabricius (1779) from Norway (150–300 fms.). Next comes *L. goliath* from Japan (775 fms.), which reaches about the same size as *excavata*. A third form is recorded from the West coast of Patagonia (245–481 fms.), which I shall call *L. patagonica*, and a fourth *L. agassizii* n. sp., from the Gulf of Panama in 322 fathoms. A section, *Acesta*, has been proposed to include these species by H. and A. Adams.

All of them have fine microscopic radial striæ and coarser radial sculpture, which is more pronounced toward the ends of the shell. In all there is a concentric grooving in the channels between the ribs, which, when the channels are narrow, takes on the appearance of punctuation. All have a very narrow gape for the byssus and a flattened or impressed lunular area. All have a very general similarity externally. The Patagonian species has an astonishing likeness to *L. excavata*. It may be useful to record the distinctive characters.

L. excavata. Convex; the whole disk radially grooved, the grooving feebler mesially; the most impressed part of the lunule close to the hinge line, the shell moderately arcuate, the posterior outline roundly convex; color grayish white; resilium broad, somewhat oblique. Alt. 140; lat. 106; diam. 55 mm.

L. goliath. Flatter, broader, the middle of the disk smooth, posterior radials fine and close-set; most impressed part of the lunule lower down, the lunule itself longer, the shell more arcuate; color milk white, sometimes with a yellow flush inside, hinge line longer and resilium slightly more central. Alt. 140; lat. 106; diam. 36 mm.

L. patagonica. Narrower and less convex, the whole shell straighter vertically, the lunule narrower and less impressed, a slight tendency to divarication in the obsolete radials of the middle of the disk, otherwise like *L. excavata*. Alt. 100; lat. 72; diam. 31 mm.

L. agassizii. Moderately convex; the radial grooving quite uniformly distributed distally, feebler mesially near the beaks, the interspaces smoothly convex, and not sharp and corrugated anteriorly; lunule short, deep and narrow, anterior end of the hinge-line very short; area of the hinge narrow, and the resilium and pit very narrow and oblique; color chalky white, with a yellow periostracum. Alt. 97; lat. 78; diam. 30 mm.

L. goliath and *L. patagonica* show distinctly obsolete lateral teeth

near the angles of the hinge-line, but in *L. excavata* there is no trace of them, and the hinge of *L. agassizii* is too chalky to be certain about their presence or absence. They are most distinct and prominent in the young shell. *L. agassizii* was dredged by the U. S. Fish Commission steamer *Albatross*, as were our specimens of *L. patagonica*.

THE SHELL-BEARING MOLLUSCA OF RHODE ISLAND.

BY H. F. CARPENTER.

The following species are additional to those hitherto described in this series, and complete the list of known species from Rhode Island:

214. *Lucina filosa* Stimpson.

Lucina radula Gould, Inv. Mass., 1st ed., p. 69, 1840; Mighels, Bost. Jour. Nat. Hist., iv, 318.

Lucina contracta De Kay, Nat. Hist. N. Y., 1843.

Lucina filosa Stimp., Shells of New Eng., 17, 1851.

Shell white, thick, orbicular, moderately convex; hinge margin straight; beaks small, pointed, projected over a small, indented, smooth, lanceolate lunule. Exterior covered with remote, concentric lamellar ridges, between which are round, thread-like striae. Interior chalky-white, polished around the margins. Hinge straight, with one cardinal tooth in the left valve and two small, diverging teeth in the right valve. Length and height 2 inches; breadth, 1 inch.

This is a rare, deep water shell and was not published in the description of the "Shell-Bearing Mollusca" of R. I. because it had never been found and was not likely to be found in our waters; but several specimens were dredged in Narragansett Bay, about two years ago, by Prof. Herman C. Bumpus, then of Brown University, in Providence, to whom I am indebted for the specimens now in my collection.

215. *Physa gyrina* Say.

Shell heterostrophe, oblong; whorls 5 to 6, terminating in an acute apex; suture slightly impressed; aperture a little more than half the length of the shell; labium a little thickened on the inner